19T8

Description and Rating

TRIPLE-DIODE TRIODE

PRELIMINARY DATA

GENERAL DESCRIPTION

Principal Application: The 19T8 is a miniature tube containing three high-perveance diodes and a high-mu triode in the same envelope. One of the diodes has a separate cathode connection.

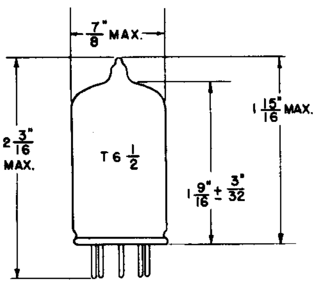
The tube is designed for use as a combined AM and FM detector and audio-frequency amplifier. Except for heater rating, the 19T8 and the 6T8 are identical.

Cathode:	Coated Unipotential
Heater Voltage (A-C or D-C)	18.9 Volts
Heater Current	0.15 Ampere
Envelope:	T-6½ Glass
Base:	E9-1 Small Glass Button 9-Pin
Mounting Position:	Any

Direct Interelectrode Capacitances:*

Triode Grid to Plate	2.4	μμf
Triode Input	1.5	μμf
Triode Output	1.1	μμf
Grid to Each Diode Plate (Max)	0.03	μμf
Number 1 And Number 3 Diode Input (Each)	3.8	μμf
Number 2 Diode Input	2.2	μμf

PHYSICAL DIMENSIONS

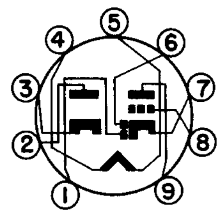


RMA 6-2

TERMINAL CONNECTIONS

Pin 1 - Number 3 Diode Plate
Pin 2 - Number 2 Diode Plate
Pin 3 - Number 2 Diode Cathode and Shield
Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Number 1 Diode Plate
Pin 7 - Triode Cathode and Shield
Pin 8 - Triode Grid
Pin 9 - Triode Plate

BASING DIAGRAM



RMA 9E
BOTTOM VIEW

MAXIMUM RATINGS

	Design Center	Absolute	
Plate Voltage	300	330	Volts
Plate Dissipation	1.0	1.1	Watts
Diode Operation Current per Plate	5.0	5.5	Milliamperes
Peak Heater-Cathode Voltage	90	100	Volts

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A AMPLIFIER: TRIODE UNIT

Plate Voltage	100	250	Volts
Grid Bias Voltage	-1	-3.0	Volts
Plate Current	0.8	1.0	Ampere
Amplification Factor	70	70	
Transconductance	1300	1200	Micromhos

DIODE UNIT: EACH UNIT

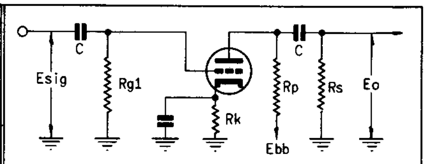
Average Diode Current with 5 Volts D-C Applied	20	Milliamperes

Note: In a ratio-detector circuit for FM, it is recommended that diodes number 2 and number 3 be used.

* *Approximate values without external shield.*

CLASS A RESISTANCE COUPLED AMPLIFIER:

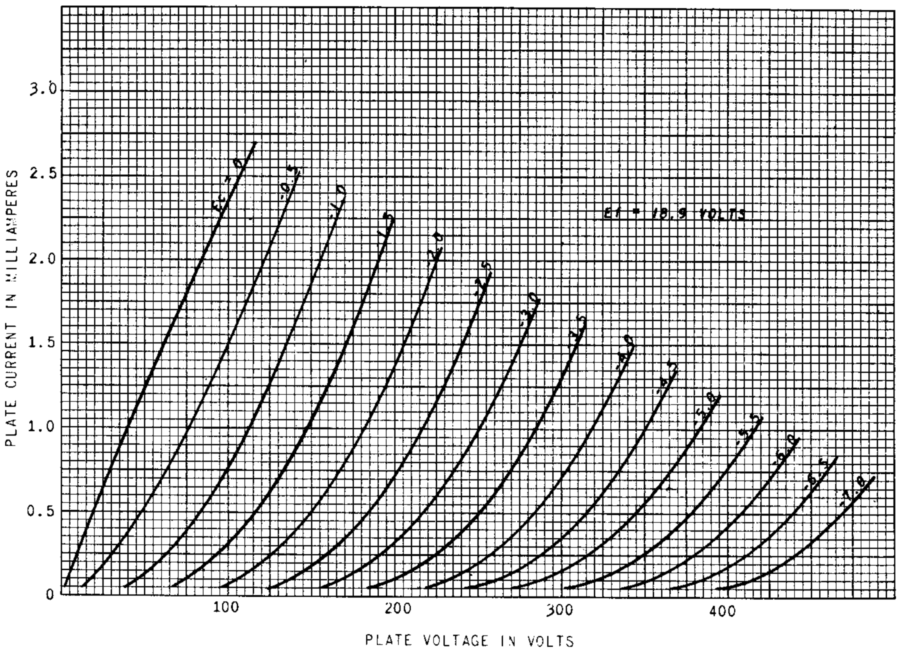
Rp Meg.	Rg1 Meg.	Rs Meg.	Ebb = 90 Volts			Ebb = 180 Volts			Ebb = 300 Volts		
			Rk	Gain	Eo	Rk	Gain	Eo	Rk	Gain	Eo
0.10	*	0.10	5700	21	7.0	2400	29	18	1800	33	35
0.10	*	0.24	6100	26	9.0	2700	34	23	2000	38	42
0.24	*	0.24	9100	30	10	4300	40	24	3000	44	43
0.24	*	0.51	10000	34	13	4700	45	31	3300	49	52
0.51	*	0.51	15000	37	14	7500	47	28	5600	51	50
0.51	*	1.0	16000	40	16	8200	50	35	6200	55	60
0.24	10	0.24	---	31	5.0	---	44	19	---	48	40
0.24	10	0.51	---	37	7.0	---	49	25	---	52	52
0.51	10	0.51	---	39	7.5	---	51	22	---	54	44
0.51	10	1.0	---	42	10	---	54	28	---	58	56



Note: Coupling capacitors (C) should be selected to give desired frequency response. Rk should be adequately by-passed.

Notes: 1. Eo is maximum RMS voltage output for five percent (5%) total harmonic distortion. 2. Gain measured at 2.0 volts RMS output. 3. For zero-bias data generator impedance is negligible. *Value of Rg1 is non-critical.

AVERAGE PLATE CHARACTERISTICS



Electronics Department

GENERAL ELECTRIC

Schenectady, N. Y.